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November 21, 1994

BY HAND DELIVERY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

RE: CC Docket No. 92-166

Dear Mr. Caton:

Transmitted herewith for filing with the Commission on behalf of Loral/QUALCOMM Partnership, L.P., are an original and 11 copies of its "Petition for Clarification and Partial Reconsideration" in the above-referenced docket.

Should there be any questions regarding this matter, please communicate with this office.

Respectfully submitted,


William D. Wallace

Attorney for Loral/QUALCOMM
Partnership, L.P.

Enclosures

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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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OFFICE OF SECRETARY

In the Matter of)
)
Amendment of the Commission's)
Rules to Establish Rules and)
Policies Pertaining to a Mobile)
Satellite Service in the 1610-1626.5)
MHz and 2483.5-2500 MHz)
Frequency Bands)
_____)

CC Docket No. 92-166

PETITION FOR CLARIFICATION AND PARTIAL RECONSIDERATION

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Dated: November 21, 1994

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CC Docket No. 92-166

To: The Commission

PETITION FOR CLARIFICATION AND PARTIAL RECONSIDERATION

Pursuant to Section 1.429(d) of the Commission's Rules, Loral/QUALCOMM Partnership, L.P. ("LQP"), by its undersigned attorneys, hereby petitions for clarification and partial reconsideration of the Commission's Report and Order in the above-referenced docket. Report and Order, FCC 94-261 (released Oct. 14, 1994) ("MSS Rules Order").¹ LQP is an applicant to construct GLOBALSTAR, a low-earth orbit, satellite communications system, which would operate in the bands allocated for the Mobile-Satellite Service ("MSS"). See Report and Order, 9 FCC Rcd 536 (1994) ("MSS Allocation Order"). LQP has participated throughout this rulemaking as a member of the Negotiated Rulemaking Committee and by filing Comments and Reply Comments.

¹ Public Notice of the Report and Order was published in the Federal Register on October 21, 1994. 59 Fed. Reg. 53294 (Oct. 21, 1994). Hence, this petition is timely filed in accordance with Section 1.429.

I. SUMMARY

As LQP stated in its Comments and Reply Comments in this proceeding, it supports the general framework established by the Commission for licensing MSS applicants in the 1.6/2.4 GHz bands. However, several aspects of the Report and Order should be reconsidered or clarified and modified as set forth herein.

First, the Commission's decision to "consider" authorizing GSO systems to operate in the 1.6/2.4 GHz bands must be reversed. This proposal conflicts with the Commission's satellite licensing policies as well as the policies and goals which form the basis for licensing LEO MSS systems. The Commission's decision has no basis in the record, departs from the scheme originally proposed by the Commission, and constitutes arbitrary and capricious and therefore unlawful agency decisionmaking.

Second, the proposed "interim plan" to protect GLONASS receivers in the United States is unnecessary and could impair the development of the LEO MSS industry. An interim plan is unnecessary because GLONASS operations are migrating to other frequencies and, in any event, LQP has demonstrated that the loss of a few signals above 1610 MHz would not affect the ability of GLONASS to achieve navigational objectives. Also, the Commission should not adopt an interim plan in order to ensure that GLONASS receivers must be built for the new frequency plan. Moreover, the Commission's interim plan is based on conjecture and should at least be deferred pending the development of GLONASS receiver protection criteria by the RTCA. If these protection requirements do impair use of

the 1610-1626.5 MHz band, all MSS licensees should share the burden of spectrum loss.

Third, the proposed filing window for system replacement applications is at odds with the characteristics of the proposed LEO systems reflected in the record and would create a disincentive for development of new technologies and thereby provision of better service. The Commission's Rule should be modified to take into account the practical implications of satellite life spans on the timing of authorizations for second-generation replacement systems. Fourth, the Commission should clarify its rules concerning (1) "authorized transmissions" from Mobile Earth Stations and (2) the commencement date for the system implementation milestones.

II. THE COMMISSION'S DECISION TO PERMIT GEOSTATIONARY SATELLITES TO USE THE 1.6/2.4 GHz BANDS VIOLATES ITS OWN MSS POLICIES, IS ARBITRARY AND CAPRICIOUS, AND SHOULD BE REVERSED.

In the MSS Rules Order, the Commission expressly found that promoting low-earth orbit satellite technology was in the public interest and that licensing geostationary satellite systems in the 1.6/2.4 GHz bands was not warranted. MSS Rules Order, ¶¶ 12-19. Despite these findings, the Commission stated -- without any explanation or reference to the record -- that it "would consider authorizing a GSO system in these bands upon a showing that its operations would not cause interference to or affect LEO operations." Id. at ¶ 20.

This unexplained proposal not only is a complete about-face from the

Commission's proposals in the Notice of Proposed Rulemaking, 9 FCC Rcd 1094 (1994) ("MSS NPRM"), but also represents a radical departure from the Commission's earlier policies on licensing satellite systems. There is no rational basis for this decision in the order or in the record, and indeed, the proposal detracts from the public interest benefits of licensing LEO systems which the Commission claims as justification for its new rules. In order to promote these public interest benefits, the Commission must maintain an exclusive allocation for LEO systems in the 1.6/2.4 GHz bands and, for the reasons outlined below, it should withdraw the inconsistent statement in Paragraph 20 of the MSS Rules Order.

A. Licensing GSO Systems Is Inconsistent with the Commission's Satellite Licensing Policies and the Rationale for Licensing LEO MSS Systems in the 1.6/2.4 GHz Bands.

The Commission's decision to permit authorization of GSO satellite systems in bands adopted expressly for operation of LEO satellite systems is a departure from the Commission's satellite licensing policies generally as well as the rules and policies adopted for MSS Above 1 GHz. As in this proceeding, the Commission has often been faced with multiple, and at times competing, technologies among satellite system applicants in the same processing group. However, in prior proceedings, after evaluating the advantages and disadvantages of the technologies and the relevant policy considerations, the Commission has taken a firm stand to adopt those design parameters which appear to best advance

the public interest, and to reject nonconforming designs, consistent with the teachings of United States v. Storer Broadcasting Co., 351 U.S. 192 (1956).

For example, in the Land-Mobile Satellite Service proceeding, in which AMSC was the eventual monopoly licensee, the Commission rejected a proposed low-earth orbit satellite design in light of its conclusion that, at that time, coordination of LEO satellite systems would be difficult, and expeditious international coordination better served the public interest. See LMSS Licensing Order, 7 FCC Rcd 266, ¶¶ 42-48 (1992). Similarly, in considering technical rules for the Radio-Determination Satellite Service, the Commission adopted a spread spectrum modulation requirement for the entire band and refused to split the band to allow a non-conforming access technology, because spread spectrum technology better served the Commission's decision to promote multiple entry. See RDSS Licensing Order, 104 FCC 2d 650, ¶¶ 14-19 (1986).

In these proceedings, the Commission decided that certain design parameters should be promoted to the exclusion of others in order to ensure that specific benefits were made available to the public. Such a decision does not require abandonment of the rejected architecture. In both cases described above, the Commission pointed out that a different spectrum segment would be available for the alternative design. See LMSS Licensing Order, ¶ 49; RDSS Licensing Order, ¶¶ 15-18. Rather, in these decisions, the Commission acted on the rationale that "splitting the baby" would have resulted in denigration of the public interest benefits of the preferred design.

In this proceeding, the Commission has expressly adopted a LEO design requirement based on specific public interest benefits. See MSS Rules Order, ¶ 15; new Section 25.143(b)(i). The Commission has found that LEO satellites systems have the advantages of avoiding signal delay inherent in GSO systems and providing greater coverage capabilities. Id. at ¶¶ 15-16. Moreover, GSO systems cannot currently provide service to handheld transceivers while LEO systems facilitate this new and enhanced satellite service now. Id. at ¶ 17.

Authorizing a GSO system would significantly undermine the Commission's decision to adopt LEO technology for this service to obtain these specific capabilities. For example, one of the major benefits of LEO systems is their ability to provide comprehensive coverage "to populated areas than cannot be reached by GSO systems." Id. at ¶ 23. As the Commission stated, "The public interest would best be served by the technology that offers the broadest potential coverage." Id. at ¶ 16. The Commission has not even attempted to harmonize this finding with the suggestion that it would authorize operation by a GSO satellite in the bands.

Indeed, the Commission rejected the arguments of AMSC, COMSAT and other proponents of authorizing GSO systems, noting that the Communications Act mandates the Commission to encourage new technologies and services. Id. at ¶ 19. Here, as in the earlier orders, the Commission has recognized that it cannot promote the benefits of LEO technology and at the same time to provide for the licensing of all technologies. Moreover, substantial spectrum is already available

for geostationary systems. See LMSS Licensing Order, 7 FCC Rcd at 274-75 (reaffirming authorization to AMSC's geostationary system for 28 MHz of spectrum). Enforcing the LEO-only design for MSS Above 1 GHz ensures that both LEO and GSO systems are allowed to compete for MSS subscribers.

Permitting operations by a GSO system in the 1.6/2.4 GHz bands would actually hamper the ability of LEO systems to provide the benefits identified by the Commission. Under the spectrum sharing plan approved by the Commission, most of the LEO licensees will operate CDMA systems which must be closely coordinated for effective and efficient operation. These systems will, in effect, each accept a marginal reduction in capacity as a means of "sharing" inter-system interference. Introduction of a GSO system would severely disrupt this scheme.

The record is devoid of any evidence which indicates that a GSO system can successfully operate in this band without causing inter-system interference. Indeed, the record affirmatively demonstrates that such operation is not possible. The report of the Negotiated Rulemaking Committee explained that due to the nature of band sharing among CDMA systems, the inclusion of any additional systems in the affected band will result in a reduction in capacity for all other CDMA licensees. Report of the MSS Above 1 GHz Negotiated Rulemaking Committee ("NRC Report"), Annex 1, Attachment 1, §§ 5.1-5.2.²

This issue was the subject of extensive discussion and analysis during the NRC. The Report of the Majority of Active Participants of Working Group 1, NRC

² It was concluded that TDMA systems cannot share at all. Id. at §§ 5.2-5.3.

Report, Annex 1, concludes that "the effect of interference into a CDMA system will be either a degradation of service quality, or a loss of capacity." Id. at Attachment 1, § 4.4. Thus, in evaluating the impact of multiple systems operating on a co-frequency, co-coverage basis, Working Group 1 utilized a method which "assumes that the impact of the interference is in terms of loss in capacity, while maintaining the existing traffic at the quality obtained without the interference." Id. at § 4.4.4.

Working Group 1 performed an analysis on this basis which demonstrated that addition of each CDMA system results in a reduction in capacity for the victim system. See id. at § 5.1. In particular, Table 8 (id., at 5-25) illustrates the loss of capacity from sharing with multiple systems. In Case 2 on Table 8, when GLOBALSTAR shares with five other systems, its estimated CONUS capacity is approximately 2880 circuits. By contrast, in Case 8, when the AMSC and Celsat systems are eliminated, GLOBALSTAR's estimated CONUS capacity is 4874 circuits.

Thus, a proposal to license a GSO system -- even on a "non-interference" basis -- will inevitably "affect LEO operations." This record is consistent with the Commission's precedent, i.e., to achieve the benefits of one technology, the Commission cannot feasibly promote all technologies.

Even were it feasible to allow GSO systems in the band, the Commission's proposal to "consider" authorizing a GSO system is inadequate as hopelessly ambiguous. The one statement on this issue offers no hint of what standards and

procedures will be employed in order to determine whether a GSO system would "cause interference to or affect LEO operations," or, for that matter, when this determination would be made. When the Commission has made clear that LEO technology provides the benefits justifying the new MSS Above 1 GHz service, there is no reason to introduce such uncertainty to the licensing process for what is a nonconforming technology.

B. The Commission's Decision to Consider Authorization of a GSO System in the 1.6/2.4 GHz Bands was Unlawful.

The Commission's decision to "consider authorizing a GSO system in these bands" constitutes arbitrary and capricious, and therefore unlawful, decision-making, because it: (1) is inconsistent with the Commission's own rules and policies and would undermine those rules and policies; (2) lacks record support and is inconsistent with evidence developed in this proceeding; and (3) was adopted without adequate notice, thereby depriving interested parties of the opportunity to offer timely and meaningful comment.

First, as described above, the Commission's statement concerning authorization of a GSO system is inconsistent with its own findings and would undermine the very rules and policies established in this proceeding. The Commission has set forth in both the MSS NPRM and the MSS Rules Order the many reasons supporting its decision to impose a LEO design requirement on licensees operating in the 1.6/2.4 GHz bands. MSS NPRM, 9 FCC Rcd at 1105-06, ¶¶ 20-22; MSS Rules Order, ¶¶ 15-19. Having established these benefits,

however, the Commission then inexplicably attempts to accommodate GSO systems on a non-interference basis.

An agency engages in arbitrary and capricious decisionmaking where its decisions undercut its own rules and policies. Northwestern Indiana Telephone Co., Inc. v. FCC, 824 F.2d 1205, 1209 (D.C. Cir. 1987); Office of Communication of United Church v. FCC, 779 F.2d 702, 714 (D.C. Cir. 1985). And, of course, any decision in which the Commission stakes out two plainly inconsistent positions must be struck down as irrational. ALLTEL Corp. v. FCC, 838 F.2d 551, 559 (D.C. Cir. 1983). The Commission's proposal to authorize a GSO system to operate in the 1.6/2.4 GHz bands is precisely the kind of inconsistency that is prohibited by the requirement of rational decisionmaking.

Second, as is also described above, the decision to consider authorization of a GSO system not only lacks record support, but is flatly inconsistent with the record developed in this proceeding. The record of the NRC Report demonstrates that a GSO system cannot operate in this band with "causing interference to or affecting the operations of LEO systems." The courts have long held that "an agency treads an arbitrary course when it fails to articulate any rational connection between the facts found and the choice made." Action for Children's Television v. FCC, 852 F.2d 1332, 1341 (D.C. Cir. 1988); City of Brookings Municipal Telephone Co. v. FCC, 822 F.2d 1153, 1165 (D.C. Cir. 1987). Yet, that is exactly what the Commission has done in this case, by ignoring the administrative record and offering no evidence to support an apparently arbitrary

decision.

Furthermore, the NPRM did not give notice that the Commission would allocate this band for "primary use" by LEO systems and also consider authorization of a GSO system. This approach deviates from the Commission's original proposal, which envisioned either a LEO-only scheme or a system whereby LEO and GSO licensees could share the 1610-1626.5/2483.5-2500 MHz bands on a co-primary basis. See MSS NPRM, ¶¶ 20-22. Instead, the Commission has indicated that it may authorize a GSO system, but offers no explanation of the procedures it would employ to circumvent the very requirements it has just established for operation in this band. The Commission's decision to allow a GSO system to operate on a secondary, non-interference basis, was also unforeseeable because it is difficult if not impossible for this to be accomplished in a CDMA or TDMA operating environment, as explained above.

Thus, the Commission's decision to consider authorization of a GSO system in this band came without adequate notice and therefore deprived interested parties of an opportunity to comment in a timely and meaningful way, in violation of administrative procedure requirements. See 5 U.S.C. § 553(b); Nat'l Black Media Coalition v. FCC, 791 F.2d 1016 (D.C. Cir. 1986). Because the Commission's final rule on this issue is not a logical outgrowth of its original proposal, it fails to meet the standard of reasoned decisionmaking. See Public Service Comm'n v. FCC, 906 F.2d 713, 717 (D.C. Cir. 1990).

III. THE COMMISSION SHOULD ELIMINATE THE NEED FOR AN INTERIM PLAN BY NOT REQUIRING PROTECTION OF GLONASS RECEIVERS IN THE UNITED STATES ABOVE 1606 MHz.

Despite substantial progress toward eliminating the potential for interference to GLONASS from MSS systems, the Commission adopted an "interim plan" for MSS operations in the 1610-1626.5 MHz band based solely on speculation about the GLONASS configuration when MSS Above 1 GHz systems are launched. See MSS Rules Order, ¶¶ 49-53. As LQP and other parties have emphasized in their comments in this proceeding, any such "interim plan" establishes a very ill-advised policy for the United States toward GLONASS receivers and could impair the development of the LEO MSS industry. The Commission should, therefore, reconsider the need for and the assumptions of its "interim plan" as follows:

First, the United States should not adopt a policy of protecting GLONASS receivers in the United States above 1606 MHz at all. An interim plan not only sends the wrong signal, but it is also unnecessary.

Second, in the event that the Commission believes a GLONASS plan should be considered, then it should not adopt a plan based on speculation. Rather, the Commission should defer its decision on this issue until the various agencies which are developing criteria for coordination of MSS and GLONASS receivers have completed their analysis and issued recommendations.

Third, if the protection criteria adopted by the RTCA in fact made a portion of the 1610-1626.5 MHz band unusable, then the burden of such impairment

should be shared by all MSS licensees.

A. The United States Should Not Protect GLONASS Receivers Above 1606 MHz in the United States.

The Commission should not inhibit the planned deployment of MSS systems and the utilization of the entire 1610-1626.5 MHz band by adopting prematurely and, in all likelihood, unnecessarily, a plan to protect GLONASS above 1606 MHz. See LQP Comments, at 66-73. Adopting such a plan impairs, rather than facilitates, operation of the U.S. MSS LEO systems, and, the Commission should seek to encourage the Big LEO services rather than providing unnecessary protection for GLONASS receivers in the United States.

1. GLONASS Operations Are Migrating. As the Commission points out in its decision, the Russian Federation has indicated that it plans to move GLONASS operations to below 1606 MHz by 2005 with its highest effective channel at well below 1604.25 MHz center frequency.³ See MSS Rules Order, ¶ 51 n.60; see also LQP Comments, Tech. App., at 12; Motorola Comments, at 44-46. Similarly, in agreements with Japan, Australia and the Inter-Union Commission on Frequency Allocations, the Russian Federation has stated its intent to move GLONASS operations below 1606 MHz in order to protect Radio-Astronomy Services in the 1610.6-1613.8 MHz band by 1998 or 1999. See LQP Comments,

³ The upper two GLONASS channels are intended to be technical channels which are only operated by the Russian Federation when the satellites are within view of Russia.

Tech. App., at 12; Motorola Comments, at 43-44.

As the Commission recognizes (MSS Rules Order, ¶ 51 n.60), this revised GLONASS frequency plan would eliminate the need for the protection requirements for MSS systems operating above 1610 MHz. Thus, these intended modifications to GLONASS would eliminate any need for an "interim" plan. Since the Russian Federation is committed to this migration, there is no reason to require U.S. MSS systems to protect receivers designated for some "transitional" stage of operations.

In fact, during recent bilateral coordinations between the Russian Federation and the United States, the United States agreed to coordinate only the final frequency configuration of the GLONASS system. The final GLONASS frequency configuration is as follows: operation on 1598.0625 MHz (L1 channel - 7), 1242.9375 MHz (L2 channel - 7) to 1605.375 MHz (L1 channel +6). Nominal operational frequencies 1604.8125 MHz (L1 channel +5), 1248.1875 MHz (L2 channel +5) and 1605.375 MHz (L1 channel +6), 1248.625 MHz (L2 channel +6) will be used only as technical frequencies when the satellite is within view of Russia. Adoption of the interim plan to protect GLONASS receivers above 1606 MHz in the United States is inconsistent with the results of this recently concluded coordination, which indicate that GLONASS will operate only below 1606 MHz.

In addition, the two administrations acknowledged that prior to final deployment of the GLONASS-M frequency plan, when the U.S. MSS systems are

implemented, mutual interference could arise between the MSS-U.S. systems and the GLONASS-M satellite network. The agreement provides that "both administrations will take all practicable steps to reduce mutual interference to an acceptable level." However, setting up a fixed plan requiring MSS systems to avoid the lower part of the 1610-1626.5 MHz band is not necessary to coordinate with GLONASS receivers.

2. GLONASS Receivers Do Not Require Protection. As LQP pointed out in its comments, the aviation community, including the Federal Aviation Administration (FAA), has expressed plans to use a GNSS for en route, oceanic, terminal and non-precision approach navigation which may or may not be adopted. See LQP Comments, Tech. App., at 12. The United States is developing its own 24-satellite Global Positioning System (GPS) to be used within GNSS, which may not utilize GLONASS. Only five satellites of the GNSS system would be needed for position location including integrity checking, and LQP has presented a study which demonstrates, for various combinations of GPS plus GLONASS, that at least six, seven or more satellites would be available. See LQP Comments, Tech. App., at Attach. 1.

Under these circumstances, even if GLONASS were to continue to use channels above 1610 MHz, those signals are not required to achieve navigational objectives under GNSS.⁴ If the GLONASS constellation were populated with 12

⁴ LQP has demonstrated previously that protection of GLONASS receivers above 1606 MHz is not required to utilize GLONASS-M in the GNSS. The Sat-Tech Study contained in LQP's Comments in this proceeding support the

satellites operating antipodally, and GNSS included 24 GPS satellites, sufficient integrity would be provided under LQP's analysis. See LQP Comments, Tech. App., Attach. 1. Multiple measurements from satellites in the GPS and GLONASS constellations would be available, and the ability to navigate with the system would not be impaired. The loss of these few GLONASS channels would not affect the ability to perform navigation measurements, particularly because no more than one satellite with these frequencies would likely be in view at any given time.

3. GLONASS Receivers Should Be Built for the New Frequency Plan.

The announced change in the GLONASS frequency plan is a major system modification which will greatly impact the design of avionics hardware compatible with GNSS. Potential GLONASS receiver manufacturers must comply with this frequency change and implement interference mitigation techniques in the design of GLONASS receivers. Filters designed for GLONASS receivers up to 1616 MHz would not protect GLONASS signals below 1610 MHz from MSS operations in the band once GLONASS operations move entirely below 1606 MHz. Accordingly, equipment manufacturers must commence designing and installing filters at the new GLONASS frequency range below 1606 MHz. Similarly, the aviation community in the United States and abroad must be made aware of the

conclusion that virtually all aviation objectives can be achieved through use of GPS and as few as six GLONASS satellites operating below 1606 MHz. See Comments of LQP, pp. 66-73 and Tech. App., Sections 2.2.3, 2.2.4 and 2.2.5, filed May 5, 1994.

modifications to GLONASS frequencies.

As MSS systems seek to coordinate globally, they should be able to claim the benefit of the new GLONASS frequency plan. If the United States provides for an "interim" plan, which implies that MSS systems can operate in less spectrum than 1610-1626.5 MHz, then revisions to the GLONASS plan would likely become less imperative. Efforts of the United States and MSS industry to encourage the revision to the GLONASS frequency plan might be viewed as optional rather than essential to the development of MSS services, hampering the global development of MSS with the attendant loss of U.S. jobs and increased foreign competition. Accordingly, adopting an "interim" plan could seriously jeopardize the future of MSS operations in the 1610-1626.5 MHz band.

**B. Adoption of an Interim Plan -- If at All -- Should Be Deferred
Pending the Development of Protection Criteria by the RTCA.**

The Commission's "interim plan" is based purely on conjecture regarding the protection level which may be adopted for GLONASS receivers and the need for any adjustment in the band-sharing plan. See MSS Rules Order, ¶ 51 ("we do not know when a full transition [of GLONASS to below 1606 MHz] will occur"); id., ¶ 52 ("we remain optimistic that the plan will not need to be implemented"). But, as the Commission recognizes, the RTCA is currently developing protection criteria for GLONASS receivers, which would apply to MSS systems operating in the 1610-1626.5 MHz band. MSS Rules Order, ¶ 51 n.61. In deferring the adoption of out-of-band emission limits to protect receipt of GLONASS

transmissions below 1610 MHz, the Commission states that it:

expect(s) that the report from (RTCA) SC 159 ad hoc will include an assessment of the out-of-band emission limits on MSS operations necessary to protect GLONASS operations below 1610 MHz. We also believe that this information will provide a mutually acceptable out-of-band emission level.

Id., ¶ 137.

The RTCA is developing the relevant emission limitation for MSS Mobile Earth Stations, and the Commission should permit MSS operations in the entire 1610-1626.5 MHz band subject to individual applicant's abilities to satisfy this to-be-determined emission limitation. Only such an approach will enable full use of the limited spectrum available and provide clear guidance to the aviation community as it considers establishment of criteria for GNSS. This approach would limit the obligation of MSS systems to the protection of signals that will be utilized in the ultimate GLONASS frequency configuration and encourage the Russian Federation to move forward to implement this final frequency configuration. Accordingly, the Commission should at least defer any decision on an "interim plan" until the RTCA has completed its analysis.

C. If Protection Requirements Impair MSS Use of the 1610-1626.5 MHz Band, All MSS Licensees Should Share the Burden of Spectrum Loss.

In the event that the RTCA adopts protection requirements for GLONASS receivers in the United States which impair MSS operations in the 1610-1626.5 MHz band, then LQP agrees with the Commission's requirement that all licensees share the burden of any such impairment. LQP objects to the adoption of an

interim plan, for the reasons outlined above. However, if such a plan is necessary for the reasons outlined in the MSS Rules Order, then LQP agrees that the modification to the band-sharing plan proposed by the Commission is equitable for all licensees.

IV. THE SYSTEM REPLACEMENT RULES SHOULD FACILITATE DEVELOPMENT OF IMPROVED SATELLITE CONSTELLATIONS.

The Commission's "replacement system" filing window must be revised to take into account the realities of LEO satellite life spans and the need for a long-lead time in processing applications to ensure efficient implementation of second-generation MSS systems. Accordingly, the Commission should revise Section 25.120(e) as described below to permit a more flexible approach to authorization of second-generation systems.

New Section 25.120(e) provides with respect to space station systems:

Applications for space station system replacement authorization for non-geostationary orbit satellites shall be filed no earlier than 90 days, and no later than 30 days, prior to the end of the seventh year of the existing license term.

47 C.F.R. § 25.120(e). This pre-defined window does not accord with information in the record regarding the implementation of second-generation systems. As LQP explained in its initial comments, the life span of LEO satellites will, as a practical matter, dictate the schedule under which second-generation systems will need to be processed. These life spans are in most cases shorter than the ten year

license term.⁵

For example, because LQP has satellites with a life span of 7.5 years, Section 25.120(e) does not facilitate LQP's replacement of its original satellites with an improved second-generation system at the time appropriate to the system design.⁶ Licensees such as LQP would be required by the new rule to replace their original satellites with "technically identical" satellites to avoid a hiatus in service. Customers would then not obtain the benefits of whatever technical innovations are incorporated in the new systems.

In addition, once a constellation of technically identical replacement satellites is put into place, it would be costly and grossly inefficient to take those satellites out of service prior to the end of their useful life span. Thus, there would be an economic disincentive to put up an improved system before the second set of satellites expired. Again, this would deprive the public of the most efficient and technologically advanced service available, and would prolong that deprivation for the life of the "technically identical" replacement satellites.

Moreover, although the demand for Globalstar capacity will be constantly

⁵ The initial applications indicate the following life spans for satellites in each system: Globalstar, 7.5 years; Iridium, 5 years; Odyssey, 10 years; Ellipso, 3 years; Aries, 5 years.

⁶ Assuming LQP launches its first satellite in July, 1997, it would be precluded by Section 25.120(e) from filing for authorization for a second-generation replacement system until about April, 2004. If the life span of the satellites is 7.5 years, the application is not likely to have been processed in time to allow construction and launch of the second-generation system before the original satellites expire in late 2004.

increasing, this demand will go unmet because the new rule artificially inhibits the construction and launch of a new, more efficient replacement system. In this manner, the new rule would contravene the Commission's goal of providing competitive, state-of-the art service to all who desire it. Because the rule needlessly hamstrings licensees in their efforts to implement rapidly improving technologies, the public would be deprived of the best service available and licensees would be saddled with unnecessary costs.

Clearly, these results are at odds with the Commission's policy goals and statutory obligations. The Commission gave no reason for its adoption of the seventh-year filing window and offered no response to the comments of LQP concerning the impracticality of such a rule.⁷ See MSS Rules Order, ¶ 186. As noted above, the record indicates that the applicants intend to use satellites of various life spans, and most of these life spans are less than the ten year license term. Thus, like LQP, other licensees will be forced to launch and operate technically inferior first-generation systems, despite the fact that second-generation systems would be available.

Given these facts, it is unclear why any fixed filing window is appropriate for authorization of replacement systems. Rather, the Commission's policies and the record in this proceeding require a rule that recognizes the need for flexibility so that licensees can expand the benefits of LEO MSS as expeditiously and

⁷ The Commission noted that this rule would be identical to that adopted for Little LEO systems. However, rules adopted for the Big LEO service should be based on the characteristics of Big LEO systems.

extensively as possible. In other words, the Commission must revise its rule to take into account the practical implications of satellite life spans on the timing of authorizations for second-generation replacement systems.

To give the rule this needed flexibility, LQP proposes that the Commission retain the current language in Section 25.120(e), but add the following provision:

A licensee seeking to replace a non-geostationary satellite constellation with a constellation of technically-improved satellites should file an application two years prior to the desired replacement date. A new license term will begin at 3:00 a.m. on the date the licensee certifies to the Commission that its operations have been transferred to the constellation of technically-improved replacement satellites.

This rule provides procedures for licensees and Commission staff to coordinate filing of second-generation systems in a manner that will provide maximum benefits to the public. At the same time, the rule would allow operators to launch technically-identical satellites as replacements for the duration of the 10-year term. Thus, operators and the Commission would have the opportunity to consider and license the systems which best fit the needs of the operator and its market.

V. **THE COMMISSION SHOULD CLARIFY ITS RULES REGARDING MOBILE-EARTH STATION AUTHORIZATIONS AND MILESTONES.**

A. **Section 25.136(b).** The Commission should clarify new Section 25.136(b): "No person shall transmit to a space station unless the specific transmission is first authorized by the space station licensee or by a service vendor authorized by that licensee." 47 C.F.R. § 25.136(b).